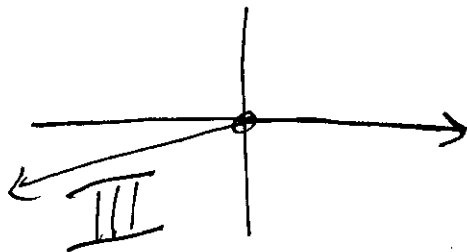


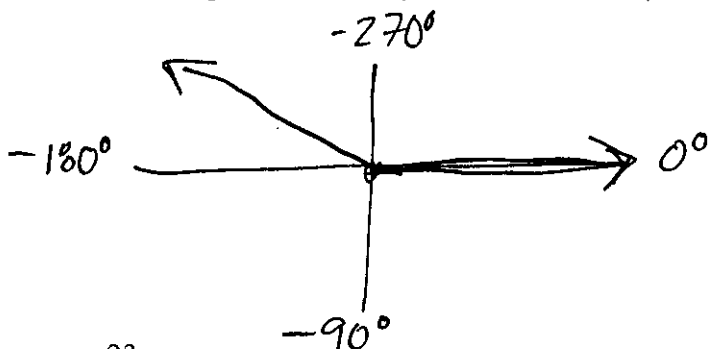
## Unit Circle Test Review

No Calculators

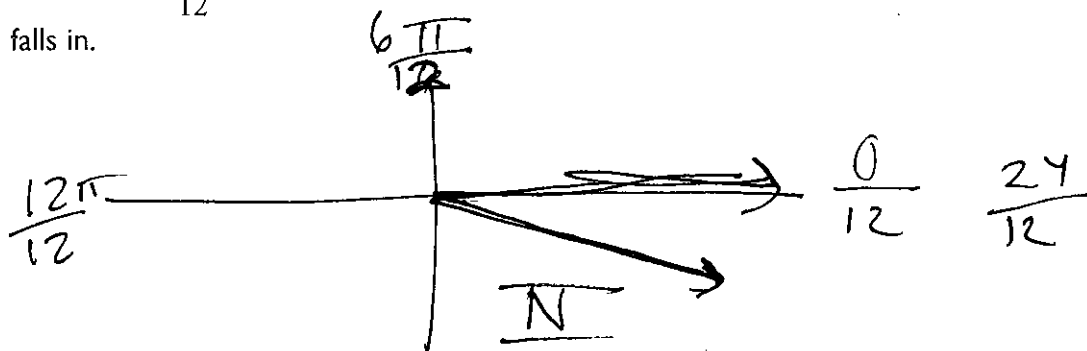
- 1) Sketch a  $190^\circ$  angle in standard position and identify what quadrant the terminal side falls in.



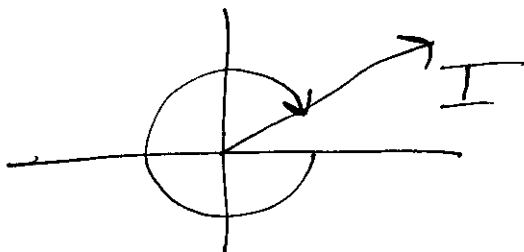
- 2) Sketch a  $-225^\circ$  angle in standard position and identify what quadrant the terminal side falls in.



- 3) Sketch a  $\frac{23\pi}{12}$  radian angle in standard position and identify what quadrant the terminal side falls in.



- 4) Sketch a  $-\frac{7\pi}{4}$  radian angle in standard position and identify what quadrant the terminal side falls in.



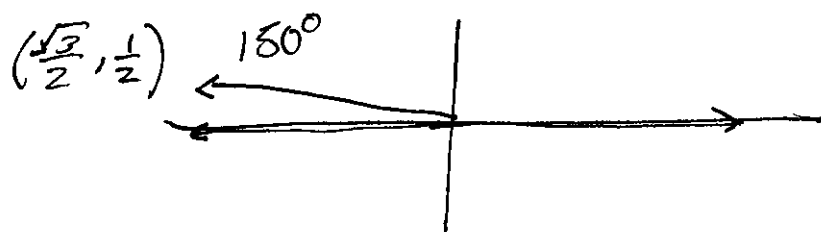
5) Convert  $200^\circ$  to radians. Your answer should be an exact answer and should be reduced.

$$200^\circ \cdot \frac{\pi}{180^\circ} = \frac{10\pi}{9}$$

6) Convert  $\frac{3\pi}{10}$  radians to degrees.

$$\frac{3\pi}{10} * \frac{180^\circ}{\pi} = 54^\circ$$

7) Find the reference angle for  $\frac{5\pi}{6}$  radians.



8) Find a coterminal angle between 0 and  $2\pi$  radians for the angle  $-\frac{3\pi}{4}$ .

$$-\frac{3\pi}{4} + 2\pi$$

$$-\frac{3\pi}{4} + \frac{8\pi}{4}$$

$$= \frac{5\pi}{4}$$

$$-\frac{11\pi}{4}$$

$$\frac{13\pi}{4}$$

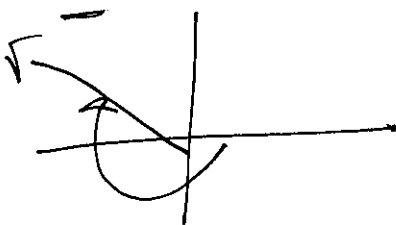
9) Find the cosine of  $\frac{\pi}{3}$  radians.

$$\frac{1}{2}$$

10) Find the sine of  $\frac{11\pi}{6}$  radians

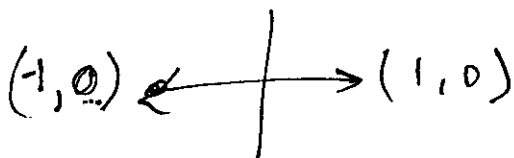
$$-\frac{1}{2}$$

11) Find the tangent of  $-\frac{5\pi}{4}$  radians

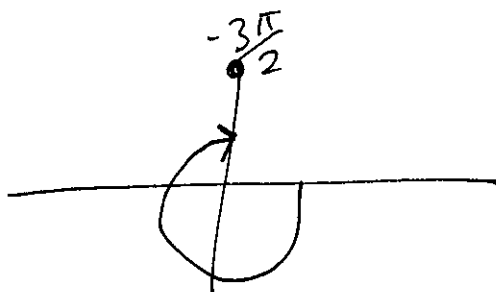


$$-1$$

12) Find the tangent of  $\pi$



13) Find the sine of  $\frac{-3\pi}{2}$



$$1$$

14) Find a coterminal angle between 0 and  $2\pi$  radians for the angle  $\frac{16\pi}{3}$   ~~$+$~~   $\frac{6\pi}{3}$

$$\frac{10\pi}{3} - \frac{6\pi}{3} = \frac{4\pi}{3}$$

15) Find the cosine of  $-\frac{9\pi}{4}$

$$\cos\left(\frac{7\pi}{4}\right) = \frac{\sqrt{2}}{2}$$

20) Solve for  $\theta$  if  $\tan \theta = -\frac{\sqrt{3}}{3} = -\frac{1}{\sqrt{3}}$

16) Find  $\cos^{-1}\left(\frac{\sqrt{3}}{2}\right)$  in radians.

$\uparrow$   
ratio  
find the angle

$$\frac{\pi}{6}$$

$$\frac{11\pi}{6}$$

17) Solve for  $\theta$  in radians if  $\sin \theta = -\frac{1}{2}$

$$\frac{11\pi}{6}$$

21) Solve for  $\theta$  if  $\cos \theta = -\frac{1}{2}$

$\uparrow$   
find the angle

$$\cos^{-1}\left(-\frac{1}{2}\right)$$

$\uparrow$  ratio

22) Find  $\sec \frac{3\pi}{4}$

$$-\frac{2}{\sqrt{2}}$$

18) Solve for  $\theta$  in radians if  $\tan \theta = 1$

$$\theta = \frac{\pi}{4}$$

19) Find  $\arcsin\left(\frac{\sqrt{2}}{2}\right)$  in radians.

$$\frac{\pi}{4}$$

23) Find  $\cot \frac{-5\pi}{3}$

$$\frac{1}{\sqrt{3}}$$